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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Charles HOWLAND et al.
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For: PENETRATION RESISTANT GARMENT
Examiner: R. Muromoto, Jr.
Art Unit: 3741

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V. Douglas
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Carol Ann Hatorney
Signature

Commissioner for Patents
Washington, D.C. 20231

RESPONSE

Sir:

In response to the Office Action mailed April 25, 2000, please amend the identified application as follows:

In the Claims

Please cancel claims 3-8, 31, 33, 49, 51, 57-64, 67-75 and 89-97, without prejudice, and amend the claims as follows:

1. (Amended) A penetration resistant garment comprising:
a plurality of penetration resistant panels cooperating with and arranged relative to one another to provide substantially complete coverage extending over an area of desired coverage
and
at least one pivot pin joining together at least some adjacent panels.

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39. (Amended) A garment according to claim 1 wherein said [continuous layer defines] area of desired coverage includes a length of desired coverage, with at least some of said panels cooperating with each other such that said length of said area of desired coverage [continuous layer] may be adjusted.

41. (Amended) A garment according to claim 1 further comprising at least one strap attached to at least one panel for a wearer to don said garment.

425. (Amended) A penetration resistant garment comprising:
a plurality of penetration resistant panels, each having a length, cooperating with and arranged relative to one another such that a length of said garment is less than a sum of the lengths of said panels, with at least some of said panels cooperating with each other such that said length of said garment may be adjusted.

435. (Amended) A garment according to claim ~~25~~¹⁹ further comprising at least one strap attached to at least one panel for a wearer to don said garment.

441. (Amended) A garment according to claim [49] ~~25~~¹⁹ wherein said panels define a plurality of fastening locations.

442. (Amended) A garment according to claim [50] ~~25~~¹⁹ further comprising a snap fastener disposed between said first and second panels, wherein at least some adjacent panels are joined together with said snap fastener.

Please add the following new claims:

98. A penetration resistant garment comprising:
a plurality of penetration resistant panels cooperating with and arranged relative to one another to provide substantially complete coverage extending over an area of desired coverage, wherein any of said panels forming said garment is replaceable.

59 98 63 62 58
A garment according to claim 98 wherein said panels are layered in an overlapping manner.

60 64 62 58
100. A garment according to claim 98 wherein at least some of said panels cooperate with one another such that a panel is adapted to slide relative to an adjacent panel.

65 61 62 58
101. A garment according to claim 98 further comprising a hook and loop fastener, wherein at least some of said panels are joined together with said hook and loop fastener.

66 62 62 58
102. A garment according to claim 98 further comprising a base material adapted for wearing by a user, with said panels being secured to an outer surface of said base material.

Q8
Cond 67 63 62 58
103. A garment according to claim 98 further comprising a base material adapted for wearing by a user, with said panels cooperating with said base material such that said base material may flex at an intersection between adjacent panels.

68 64 62 58
104. A garment according to claim 98 further comprising a base material adapted for wearing by a user, with said base material comprising at least one pocket, with said panels being disposed within said at least one pocket.

69 65 62 58
105. A garment according to claim 98 wherein said garment is adapted to be worn exclusively on one of a front or back of a wearer.

70 66 62 58
106. A garment according to claim 98 wherein each said panel comprises a backing and a penetration resistant fabric covering said backing, with said penetration resistant fabric occupying an area less than a total area of said backing.

71 67 70 66
107. A garment according to claim 106 wherein said backing includes an edge, with said penetration resistant fabric covering said backing such that said edge of said backing remains exposed.

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108. A garment according to claim 98 wherein each said panel comprises a backing, a penetration resistant fabric covering said backing, and a laminate disposed over said penetration resistant fabric.

109. A garment according to claim 98 further comprising a cover removably covering at least one of said panels.

110. A garment according to claim 98 wherein each said panel comprises a penetration resistant fabric and a hardening material cooperating with said penetration resistant fabric.

111. A garment according to claim 110 wherein each said panel further comprises a crystalline material adhered to said hardening material.

112. A garment according to claim 111 wherein said crystalline material is selected from the group consisting of ceramic, garnet, metal, silicon carbide, aluminum oxide and diamond.

113. A garment according to claim 98 wherein at least some of said panels are configured to form a torso section, with said torso section comprising a chest panel, a left waist panel attached to said chest panel, a right waist panel attached to said chest panel and a groin panel attached to said chest panel and said waist panels.

114. A garment according to claim 98 wherein at least some of said panels are configured to form a chaps section, with said chaps section comprising first and second leg sections, with each said leg section comprising a thigh panel and a knee section, said knee section comprising an upper knee panel, a lower knee panel and a knee pad coupled between said upper and lower panels, with said upper panel being adjustably secured to said thigh panel.

115. A garment according to claim 114 wherein said thigh panel is adapted to receive an outhaul strap.

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116. A garment according to claim 114 wherein said knee pad is pinned to said upper panel with a first pair of pivot pins and pinned to said lower panel with a second pair of pivot pins, said first and second pairs of pivot pins being positioned through said knee pad at predetermined locations such that an effective center of rotation of said upper panel, said lower panel and said knee pad passes through a center of rotation of the knee of a wearer.

117. A garment according to claim 98 wherein at least some of said panels are configured to form a gaiter section, with said gaiter section comprising at least one shin panel, an ankle panel and a foot panel, with said shin, ankle and foot panels being pinned together at one or more locations to allow at least one of ankle rotation and toe articulation of said gaiter section when worn by a wearer.

118. A garment according to claim 98 further comprising at least one strap attached to at least one panel for a wearer to don said garment.

119. A garment according to claim 112 wherein said crystalline material is in a powder form.

120. A garment according to claim 119 wherein said crystalline material has a mesh size of at least 150 or finer.

121. A garment according to claim 42 wherein said crystalline material is in a powder form.

122. A garment according to claim 121 wherein said crystalline material has a mesh size of at least 150 or finer.

123. A garment according to claim 19 wherein said crystalline material is in a powder form.

124. A garment according to claim 123 wherein said crystalline material has a mesh size of at least 150 or finer.

89 85
125. A penetration resistant garment comprising:

a plurality of penetration resistant panels cooperating with and arranged relative to one another to provide substantially complete coverage extending over an area of desired coverage, with each panel comprising a multi-layer structure having a first layer, a second layer and a third layer, the second layer having a penetration resistance that is less than the penetration resistance of the first layer and the third layer.

90 86 89 85
126. A garment according to claim 125 further comprising a third layer having a penetration resistance that is substantially the same as the penetration resistance of the first layer.

91 87 90 86
127. A garment according to claim 126 wherein said second layer separates said first layer from said third layer by a distance between about .015" and .025".

92 88 89 85
128. A garment according to claim 125 wherein said second layer comprises a synthetic yarn formed of at least one of a single and multiple filaments, said yarn having an denier of greater than 50.

93 89 92 88
129. A garment according to claim 128 wherein said filament has a denier of not less than 50.

94 90 89 85
130. A garment according to claim 125 wherein said second layer comprises one of foam and felt.

95 91 89 85
131. A garment according to claim 125 wherein said second layer comprises, in layered construction, a synthetic yarn having at least one of a single and multiple filaments and one of foam and fibrous felt.

96 92 95 91
132. A garment according to claim 131 wherein said synthetic yarn has an denier of greater than 50.

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97 93 *89-7-85*
133. A garment according to claim 125 wherein at least one of said first layer and said third layer comprises a penetration resistant fabric and a hardening material cooperating with said penetration resistant fabric.

98 94 *97 93*
134. A garment according to claim 133 wherein said at least one of said first layer and said second layer further comprises a crystalline material adhered to said hardening material.

99 95 *198 94*
135. A garment according to claim 134 wherein said crystalline material is selected from the group consisting of ceramic, garnet, metal, silicon carbide, aluminum oxide and diamond.

100 96 *98 94*
136. A garment according to claim 134 wherein said crystalline material is in a powder form.

97 *100 96*
137. A garment according to claim 136 wherein said crystalline material has a mesh size of at least 150 or finer.

REMARKS

In response to the Office Action mailed April 25, 2000, Applicants respectfully request reconsideration. To further the prosecution of this application, each of the rejections is addressed below. The application is believed to be in condition for allowance.

Restriction Requirement

The Examiner has restricted the application to one of the inventions identified as Groups I-X. On page 3 of the Office Action, the Examiner stated, "[d]uring a telephone conversation with Neil Ferraro on February 15th, a provisional election was made without traverse to prosecute the invention of Group I, claims 1-48, and 76-89. Affirmation of this election must be made by Applicants in reply to this Office Action. Claims 49-75 and 90-97 have been withdrawn from further consideration by the Examiner, 37 C.F.R. 1.142(b), as being drawn to a non-elected invention."

The Examiner correctly indicated that the Applicants' attorney provisionally elected Group I, claims 1-48 and 76-89. However, the Office Action now indicates that Group I is limited to claims 1-24, 76-88 and 89, whereas Group II contains claims 25-48. As a result, the

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Office Action failed to substantively address claims 25-48, as presumably being drawn to non-elected claims.


It is unclear to the Applicants why the Examiner has now indicated that claims 25-48 are also subject to restriction, especially, given that both groups of claims are directed to penetration resistant garments classified in class 2, subclass 2.5. In fact, in reviewing the restriction laid out in the Office Action, many of the claims are drawn to inventions classified in class 2, subclass 2.5. For example, claims 49-52 are drawn to adjustable panels for a penetration resistant garment, classified in class 2, subclass 2.5; claims 53-56 are drawn to penetration resistant garments with a removable cover, classified in class 2, subclass 2.5; claims 63 and 64 are drawn to a penetration resistant garment, classified in class 2, subclass 2.5; claim 65 is drawn to a penetration resistant garment, classified in class 2, subclass 2.5; and claim 66 is drawn to a method of donning a penetration resistant garment, classified in class 2, subclass 2.5.

Accordingly, reconsideration of the restriction requirement is respectfully requested.

In this respect, to support the restriction, the Examiner stated that each of the inventions are distinct because the groups drawn to a penetration resistant garment all contain differing limitations which renders them all separate and distinct inventions. While the Applicants do not disagree that the claims contain different limitations rendering the claims separate and distinct, this is insufficient to require a restriction. The Examiner also stated that the inventions are distinct and have acquired a *separate status in the art* because of their recognizable divergent subject matter and as evidenced by their *different* classifications. However, the Examiner has failed to provide any evidence showing that the inventions have attained separate status in the art and failed to explain why the inventions must be restricted on the basis of different classifications when, in fact, many of the classifications are the same, as indicated above.

Therefore, the Examiner has failed to establish a *prima facie* case for restricting the claims of the application.

Should the Examiner maintain a restriction, it is respectfully requested that the restriction be delineated along classification designations such that any claims classified in class 2, subclass 2.5 be grouped into a single group. Thus, to further prosecution of this application, the Applicants have canceled claims 57-62, 67-75 and 90-97, which are drawn to inventions not classified in class 2, subclass 2.5.



Claim Rejections*A. Claim 9*


Claim 9 stands rejected under 35 U.S.C. §112, 2nd paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicants regard as the invention. In this respect, claim 9 includes the recitation, "said continuous layer" has no clear antecedent basis. Accordingly, claim 9 has been amended to recite, "said area of desired coverage includes a length of desired coverage, with at least some of said panels cooperating with each other such that said length of said area of desired coverage may be adjusted." Therefore, the rejection of claim 9 under 35 U.S.C. §112, 2nd paragraph should be withdrawn.

B. Claims 1 and 4

The Applicants have amended Claim 1 to include substantially all the limitations of canceled claim 4. As now amended, claim 1 recites, "[a] penetration resistant garment comprising a plurality of penetration resistant panels cooperating with and arranged relative to one another to provide substantially complete coverage extending over an area of desired coverage; *and at least one pivot pin joining together at least some adjacent panels.*" However, claim 4 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Fritch in view of Golembiowski.

The Examiner stated that although Fritch teaches many of the limitations, it does not teach the use of pivot pins to connect the penetration resistant panels. Thus, the Examiner cites Golembiowski for the proposition that the armor plates are riveted together so as to keep them in place while allowing them to pivot and flex with the body of the wearer.

Notwithstanding the propriety of the combination, it is respectfully submitted that even if the combination was proper, the combination would not result in the panels being secured *together* with pivot pins, as alleged by the Examiner. In this respect, Golembiowski shows each panel riveted to a backing material. This is clearly stated at col. 2, lines 59-66 of Golembiowski. Thus, to the extent that one of skill in the art would have been motivated to modify Fritch to include the rivets as taught by Golembiowski in the manner allegedly suggested by the



Examiner, the resulting apparatus would not include at least some adjacent panels joined together with pivot pins.

Therefore, the rejection of claim 4, now included in claim 1, under 35 U.S.C. §103(a) should be withdrawn such that claim 1 and the claims depending therefrom should now be in condition for allowance.

C. Claim 25

As discussed above, the present Office Action indicates that claim 25 is subject to a restriction requirement, even though the Applicants have not provisionally elected to restrict claim 25 and the claims depending therefrom. Therefore, as discussed above, reconsideration of this newly required restriction is respectfully requested.

To further prosecution of the present application, the Applicants have amended Claim 25 to include the limitations of claim 33. As now claimed, claim 25 recites, "[a] penetration resistant garment comprising: a plurality of penetration resistant panels, each having a length, cooperating with and arranged relative to one another such that a length of said garment is less than a sum of the lengths of said panels, *with at least some of said panels cooperating with each other such that said length of said garment may be adjusted*" (emphasis added). The prior art of record does not teach, suggest or disclose such a limitation, namely, adjusting the length of the garment. Therefore, claim 25 and the claims depending therefrom are believed to be in condition for allowance.

D. Claim 76

Claim 76 stands rejected under 35 U.S.C. §102(b) as being anticipated by Fritch. To support the rejection, the Examiner stated that Fritch discloses protective body armor that utilizes multiple panels to provide body armor inserts to be worn under regular clothing. This rejection is respectfully traversed.

Claim 76 is directed to a *kit of parts* for use in assembling a penetration resistant garment including at least one penetration resistant panel, with said panel being adapted to cooperate with and arranged relative to adjacent panels to provide substantially complete coverage extending over an area of desired coverage.

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Fritch simply does not teach, suggest or disclose a kit of parts. Rather, Fritch discloses a complete protective garment to be worn under regular clothing. Therefore, it is respectfully submitted that the rejection of claim 76 under 35 U.S.C. §102(b) as being anticipated by Fritch be withdrawn. Accordingly, claim 76 and the claims depending therefrom are believed to be in condition for allowance.

E. Claims 98-120

The Applicants have added new claims 98-120 directed to a penetration resistant garment having a plurality of panels, wherein any of the panels forming the garment is replaceable. In this respect, Claim 98 is similar to claim 1 amended to include claim 10. However, as indicated above, claim 10 stands rejected under 35 U.S.C. §102(b) as being anticipated by Fritch.

It is respectfully submitted that Fritch simply does not teach, suggest or disclose replaceable panels. In fact, Fritch teaches a garment having panels that are not replaceable. In this respect, at col. 3, lines 26-28, Fritch states, "the body armor assemblages are *enclosed* in a woven nylon shell 27" (emphasis added). Therefore, Fritch simply does not disclose replaceable panels. Accordingly, claims 98-120 are believed to be in condition for allowance.

F. Claim 125-137

The Applicants have added new claims 125-137 directed to a penetration resistant garment having a plurality of penetration resistant panels. Each panel includes a multi-layer structure having a first layer, a second layer and a third layer. The second layer has a penetration resistance that is less than the penetration resistance of the first layer and third layer. The prior art of record fails to teach, suggest or disclose such a limitation. Accordingly, claims 125-137 are believed to be in condition for allowance.

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Conclusion

In view of the foregoing amendments and remarks, this application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicants' attorney at the telephone number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicants hereby request any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825

Respectfully submitted

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